be provided which contains such a screen portion for providing dialing feedback, while another screen portion is concurrently used for directory lookup feedback. Thus, the user can perform either a direct-dial operation or a directory filtering operation, and receive appropriate feedback for the operation being performed, without having to specify in advance which operation is desired.

[0115]   If, in 304, the lookup string cannot be converted to a numeric dial string (for example, if the lookup string contains at least one character that does not correspond to a key 202 having a numeric secondary value), then no numeric dial string is displayed. In one embodiment, the corresponding portion of screen 102 is left blank, and any previously displayed numeric dial string is deleted; in another embodiment, an indicator is displayed to inform the user that the direct-dial operation is no longer active. Auditory or other feedback may also be provided to indicate that direct-dial is no longer active.

[0116]   The invention performs a filtering operation 306 on a stored directory 403, using the lookup string, to obtain a filtered directory set 405.

[0117]   The invention determines 307 whether the filtering operation yielded any results. If the filtered set 405 is not empty, meaning that at least one directory record matches the lookup string, the filtered set 405 is displayed 308 on screen 102.

[0118]   If filtered set 405 is empty, meaning that no directory records match the lookup string, the invention may leave the corresponding area of screen 102 blank, or may display feedback indicating that no records match. Auditory or

other feedback may also be provided to indicate that no records match. In one embodiment, auditory or other feedback may be provided when direct-dial is not active (because at least one entered keystroke has no numeric secondary value) and no records match the lookup string. The user is thereby notified that his or her keystroke entry has thus far yielded no valid results according to either direct-dialing or directory filtering. The user may thereby be encouraged to backspace so as to delete the most recently typed keystroke, as described below.

[0119]   In one embodiment, steps 303, 304, 306, and 307 are performed by string handler 402, which may be a software module within device 100.

[0120]   If the user enters additional character input 309, the invention returns to step 301 to process the additional keystrokes. If the user indicates some other command (such as selecting a displayed record, or providing a "dial" command, or selecting another operation entirely), the appropriate action is performed 314 and the method ends 315. If appropriate, additional operations may take place. For example, if the user selects a displayed record, a directory lookup module 407 may obtain more detailed information from directory 403 for display (such as postal address, e-mail address, and the like). If the user indicates a "dial" command, either numeric dial string 404 or the telephone number associated with a selected directory record is provided to dialer 408. Dialer 408 may be a software module for initiating a dialing operation. Telephone 409, which may be an integrated module in device 100, may then be activated so as to allow the user to communicate with the called party.

[0121] In one embodiment, when the user presses backspace key 203, the most recently entered keystroke is deleted. The invention then continues with steps 303 through 314 as described above. Since pressing backspace key 203 shortens the lookup string, in general such an action may enlarge the filtered set, and/or may reactivate the direct-dial operation where it may previously have been rendered inactive by entry of a keystroke having no numeric secondary value. In other words, the user may delete those keystrokes that have no numeric secondary value and thereby reactivate the direct-dial operation.

[0122] Thus, the present invention allows a user to enter keystrokes corresponding to a direct-dial operation, or corresponding to a directory filtering operation, where some or all of the keystrokes correspond to multiple-value keys, without having to specify which operation is intended. The invention determines which operation is intended based on whether the user enters any non-numeric keystrokes and/or on whether the directory, when filtered according to the entered keystrokes, yields any records. As described above, the invention makes the aforementioned determinations after each keystroke, or after a series of keystrokes, so that the filtering process is iterative.

[0123] In one embodiment, the user may override the invention's determination, or may manually specify which operation is desired, or may manually specify a mode of operation. Such specification may be made before, during, or after entry of the keystrokes. Thus, for example, the user might be given the opportu-